



August 28, 1992

Ms. Karen Martin (P-19J)
Community Relations Coordinator
United States Environmental Protection Agency
77 West Jackson
Chicago, Illinois 60604

Re: Comments on U.S. EPA Ecological Risk Assessment
ACS NPL Site
For Inclusion in the Administrative Record

Dear Ms. Martin:

At the request of the American Chemical Services (ACS) Organizational Group Steering Committee, Warzyn Inc. (Warzyn) has reviewed the "Final Ecological Risk Assessment for American Chemical Services, Griffith, Indiana" prepared for the U.S. Environmental Protection Agency (U.S. EPA) by its contractor, Roy F. Weston, Inc. The following summarizes Warzyn's comments on this document.

General Comments

In general, the U.S. EPA document is mostly a rewritten version of Warzyn's Ecological Assessment (EA), with U.S. EPA assumptions applied throughout. The organization and approach of the document follow those used by Warzyn. Also, the scope of the report states that it is not a stand-alone document as it relies upon Warzyn's EA. The Warzyn EA cited by the U.S. EPA report is Warzyn's April 1991 EA, rather than the October 1991, Warzyn EA.

Introduction

The scope of the U.S. EPA report is downsized from that of Warzyn's: the U.S. EPA document does not cite use of U.S. EPA guidance documents for preparation of risk assessments. In the U.S. EPA description of the site observations upon which statements are based are not described. Evidence for the permanent condition of water in the ditches is not given; this comment appears to be a refutation rather than a description of observed conditions. Also, the U.S. EPA report attributes documentation of fish in the ditch to Nims (1990). However, the presence of fish was not mentioned in the cited report. This result suggests that information was fed to the report preparer after the fact, and was not documented. The endangered species discussion is argumentative: parts of it are irrelevant (the



importance of undescribed areas), and others are hypothetical and not supported by fact (endangered species may be present).

Contaminants of Concern

The scope of work for an ecological assessment, when first presented to Warzyn for this project, suggested review of a few contaminants of concern. This report expands the list considerably. The report states that toxicity was evaluated in consideration of chemicals of concern, but a basis of the toxicity evaluation used for the screening was not mentioned. The document addresses maximum values for contaminants for concern; this approach ignores biodegradation, dilution, and chemical binding of contaminants from source areas. Maximum concentrations of groundwater contaminants from monitoring wells are used, whereas concentrations in monitoring wells closest to the wetland (the discharge area for groundwater) show attenuation does occur. Also, maximum concentrations are used, although U.S. EPA guidance (Risk Assessment Guidance for Superfund: Volume One) suggests use of the 95% upper confidence limit of the geometric mean of values as being more representative. The soil samples used in the document as shallow soils of concern include those in a crushed gravel parking lot at Kapica-Pazmy.

Indicator Species

The indicator species selected, and also required in the Warzyn Ecological Assessment, are not appropriate for the site. The U.S. EPA report assumes mink are present; the urban setting, even with wetlands present, makes this unlikely. The application of bluegill sunfish to the railroad-side of the ditches is not likely, although this species may be present in the open water portions of the wetlands.

Exposure Estimates

The U.S. EPA report stresses that maximum exposures are used in order to test the no-impact hypothesis, but these values overstate exposure, and should not be used beyond testing the no-impact hypothesis. The report values for exposure are high because the report does not include attenuation factors for biodegradation (10 times for low molecular weight organics), dilution (10 times for groundwater dilution for non-source water), and retention to soils (10 times for metals and high molecular weight organics). For bioconcentration factors (BCFs), values considered are not realistic. The assumption of 100% uptake of metals from environmental media is not realistic, based on human data. For mink, some BCFs in Table 4-2 are high, by factors of four to 100 for some of the metals, based on U.S. EPA Ambient Water Quality Criteria documents that contain literature values. For food sources, BCFs values times the upper aquifer maximum concentration overestimate clay concentrations of contaminants. For aquatic receptors, media-specific toxicity data are conservative, and possibly not relevant



because these data are typically developed for open water habitats and sediments underlying these waters.

Toxicity Assessment

For sediments in general, comparison with the presented guidelines is not relevant: Ontario dredge spoil criteria and studies included in the NOAA (1990) report are mostly addressed to stream, lakes. For equilibrium partitioning values, % organic carbon is low for site conditions. Total organic carbon values for site sediments were all greater than 1.6%. Use of the higher % organic carbon would result in higher guideline values.

Risk Characterization

Use of the surface water concentrations times the BCFs is not appropriate for the daily intake from food sources for mink, because those values are not the concentrations in the food sources, especially for frogs and small mammals. Also, BCFs used appear to be high, as mentioned above. For aquatic receptors, Ambient Water Quality Criteria are exceeded in worst case wells, but not in wells nearest the wetland (discharge point). Also, Ambient Water Quality Criteria do not apply to groundwaters due to the different chemical environments of these waters. For both surface waters and groundwaters, hardness-based criteria were not developed for metals that have these criteria. For surface water, lead concentration exceed chronic hardness-based Ambient Water Quality Criteria only for SW02 and SW08. For groundwater, hardness-based criteria were not applied for cadmium, lead, and zinc. Site sediment concentrations were compared with lowest guidelines presented in the previous report section. These values are the least relevant to the wetland sediment situation at the site.

References

Several of the references cited in the text are not included in the reference section. Of particular use would have been the U.S. EPA 1986 document containing BCF values and the Persaud *et al.* 1980 publication discussing the Ontario Ministry of Environment sediment guidelines.

Summary

The conclusions are vague, but should be so due to the limited background information from the literature and the lack of relevancy for much of that information.

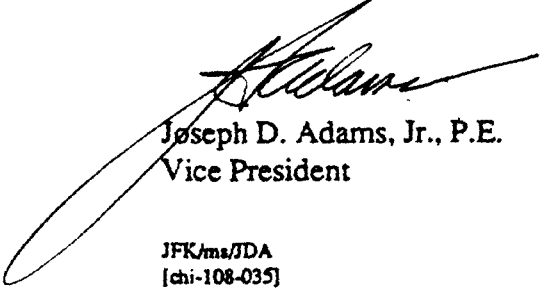
The U.S. EPA document presents ecological risks from the site greater than those derived from Warzyn's Ecological Assessment. The general approach to animal population risk is similar between reports. The U.S. EPA document presents worst case concentrations and uses BCF values where they may not be appropriate. The Warzyn Ecological Assessment included use of attenuation



factors reasonable for the site situation. Development of the quantitative risk values in the reports does not fit easily into overall interpretation of ecological effects resulting from the site.

Sincerely,

WARZYN INC.



Joseph D. Adams, Jr., P.E.
Vice President

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